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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KANG, INSUN

ART UNIT PAPER NUMBER

2193

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

09/844,345

Applicant(s)

ROBISON, ARCH D.

Examiner

Insun Kang

Art Unit

2193

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 20 January 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The reply was filed after the date of filing a Notice of Appeal, but prior to the date of filing an appeal brief. The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 1-38.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
13. ☐ Other: _____.

Continuation of 11. does NOT place the application in condition for allowance because:

The applicant argues that:

Rug does not disclose, either expressly or inherently, 1) pruning

2) local graphs representing local problems that correspond to separately compilable components 3) values of each of the local graphs form a lattice under a partial ordering

because:

1) Transforming and/or merging is not the same as pruning. Pruning is in essence reducing whereas merging is combining. The two processes are different (Remark, page 11)... claim 1 recites "pruning local graphs representing local problems", which is the "reduced" phase of the cited paragraph. Claim 1 does not recite the "merged" phase of the cited paragraph (page 12).

In response, Ruf specifically states that "Partitioning algorithm module... may merge suitable type representatives of the ordered dependence relation into a single type representative to help reduce execution time and/or memory space costs in performing the dataflow analysis (col. 10 lines 47-60)" and "nodes 510, 520, as nodes of a strongly-connected component, are therefore collapsed into a single node... and directed edges... are removed to form a collapsed dependence graph," col. 12 lines 36-52). The claims merely recite; "pruning local graphs representing local problems" without specifically reciting how such pruning is performed. Ruf's merging into a single type representative by collapsing a single node dependence graph can be considered as including a reduction operation. Therefore, merging includes reducing in Ruf's partitioning algorithm by merging "suitable type representatives... into a single type representative", to help "reduce execution time and/or memory space costs in performing the dataflow analysis (col. 10 lines 47-60)." In response to the applicant's statement; reducing "execution time or peak storage requirements is not the same as pruning the local graphs (page 12)," the portion is recited to indicate the result of merging.

2) Ruf does not disclose local graphs representing local problems corresponding to separately compilable components. A function is not a separately compilable component. A function, by itself, cannot be compiled (pages 11-12).

In response, there are two reasons that applicant's statement; a function is not separately compilable, is not persuasive. First, a unit such as a procedure (i.e. function, method), subroutine, class, or database table is the smallest separately compilable element of code. The simplest example can be the main() function; void main() {cout << "test\n"; }. This main function is "separately compilable." Therefore, the applicant's argument is technically incorrect. Second, the instant specification clearly recites that: a "translation unit is a subroutine, a function, or any other separately compilable software entity (Specification, paragraph 0002)" and "Local inter-procedural problems are constructed for each translation unit, reduced, and merged together into a global problem to be solved. Local solutions are derived from the global solution, and used to optimize each translation unit when it is recompiled (specification, paragraph 0034)." Therefore, as the specification supports that a function is separately compilable, the applicant's argument; a function is not separately compilable, is contradictory.

3) Ruf does not disclose values of the local graph form a lattice under a partial ordering. Ruf merely discloses a directed acyclic graph which represents a collapsed dependence graph. Ruf's DAG does not correspond to values of the local graphs. Ruf's DAG represents a dependence graph. The local graphs correspond to separately compilable components, which do not contain dependencies among type (page 13).

In response, the claims do not define local problems/graphs (if the applicant means the local graph in claims is somewhat different from the conventional local graph in a dataflow analysis). As admitted in the specification, the global information related to the translations units, which are separately compilable, is collected in an inter-procedural analysis phase (specification, page 1). The applicant states that the local graphs correspond to separately compilable components above. As shown above, Ruf discloses a separately compilable unit, a function. Ruf's directed acyclic graph corresponding to a partial ordering of types, which represents functions (col. 10 lines 1-10), can be considered as a local graph. Therefore, Ruf discloses that values of the local graph form a lattice under a partial ordering.

Accordingly, in view of the broadest reasonable interpretation above, Ruf discloses the limitations in the claims. Therefore, the rejection of the claims is considered proper and maintained.

*Note: The objection to the specification has been withdrawn because applicant's argument is persuasive.

I. Kang
Examiner
4/1/2005

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